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Innovation-Framing Regulation

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Abstract: This paper aims to provide insights into the effective regulation of private sector innovation. It coins a term – “innovation-framing regulation” – to describe a particular quality of the regulation that characterized much of financial regulation in the recent era. After briefly sketching a particular financial innovation (securitization and the marketing of securitized assets on the derivatives markets) it describes three regulatory interactions with that innovation: the Basel II Capital Accords, the Asset-Backed Commercial Paper Crisis in Canada, and the ongoing notice-and-comment rulemaking process surrounding the Volcker Rule in the United States. While each case study is different, in each one the regulatory regime exhibits a lack of understanding about the phenomenon of innovation it is grappling with. The paper identifies three key assumptions that are ripe for re-evaluation: the notion that private sector innovation is beneficial, virtually by definition; the assumption that the regulatory moment is the crucial moment in regulatory design; and the belief that innovation somehow sits outside regulation and can be untouched by it. The paper argues that effective regulation of private sector innovation requires a clearer and more nuanced understanding of innovation, and engagement with the normative choices underpinning innovation-framing regulation.

Change is inevitable, and so regulation must be able to deal with it. It is one thing –surely an unremarkable thing – to build in a regulatory infrastructure for managing change. We can scarcely conceive of law without its change-managing processes, like the statutory amendment process, or the “living tree” of case-by-case common law evolution. It is another thing to *embrace* change as desirable, and to try to build regulatory structures that are capable of reacting to and adapting to constant exogenous change. It is still another to embrace a particular kind of change – private sector-generated human *innovation* – as desirable and to locate it at the very centre of the regulatory project.

The goal of this paper is to begin to investigate the effective regulation of private sector innovation. It coins a term – “innovation-framing regulation” – to describe a particular quality of the regulation that characterized much of financial regulation in the recent era. Innovation-framing regulation is not centrally concerned with the regulation of property rights associated with innovation, the domain of intellectual property law. Nor does it refer to targeted government programs that establish and distribute incentives to innovate, such as American NSF grants. Rather, innovation-framing regulation considers the nature of regulation, in fields where it has had to respond and adapt to subject matter that is being transformed, radically and continually, by private sector innovation.

Innovation-framing regulation considers that decentralized private sector innovation should be the primary driver of change. It establishes a scaffolding of overarching or meta-level regulatory controls. These may take the form of regulatory goals or principles cast at a high level of abstraction, the regulation of self-regulation through “meta-regulation” or management-based regulation, outcome-oriented or performance-driven regulation, or a combination thereof. Private sector innovation is allowed, indeed encouraged, to flourish within those structural bounds. Innovation-framing regulation accepts, even embraces, rapid human-generated change and tries to manage the risks associated with it, while recognizing that one cannot know in advance precisely what shape that change will take. Financial sector regulation in the era between the Enron’s collapse in 2002 and the Credit Crunch in fall 2008 is my example here.ⁱⁱ The kinds of innovation that are most central to this account are innovations, undertaken by private actors, for private benefit (in the case of financial institutions, meaning greater profit through the marketing of more and more lucrative instruments), based on new technology that seemingly allowed those financial institutions to excise the risks associated with an asset from its benefits, and to slice and sell risk ever more finely.

Innovation-framing regulation takes as starting points that (1) extensive, fast-moving and technically complex innovation is at least inevitable and, following the efficient market hypothesis, likely beneficial; (2) centralized public regulators cannot hope to keep up with private sector innovation, but should at least work hard to avoid stifling innovation, particularly in a competitive international environment; and, (3) it is possible, through innovation-framing regulation, to generate “simply better” regulation that imposes no real costs on anyone and requires no difficult trade-offs.

This paper links three signal regulatory moments in the last decade of financial sector history, each of which can be seen as a response to a particular and powerful phenomenon: private sector financial sector innovation in the creation and marketing of asset-backed securitized financial products. The first case study looks at the innovation-framing capital adequacy regime developed under the Basel II Capital Accords (Basel Committee on Banking Supervision, Bank for International Settlements 2004). The second considers the 2007 Asset-Backed Commercial Paper (ABCP) Crisis in Canada. The third case study considers the notice-and-comment rulemaking process following passage of the *Dodd-Frank Wall Street Reform and Consumer Protection Act* in 2010 in the United States, specifically concerning the final form of the so-called Volcker Rule. Each of these brief, inevitably partial, and very different case studies considers how private sector financial innovation intersected with the regulatory structures designed to accommodate change. While each example is different in its particulars, in each case the regulatory strategy failed (meaning that it did not perform as intended) in part because it did not take seriously enough the swamping effect that private sector innovation would have on regulatory structures designed to channel it.

The first two examples, of Basel II and the ABCP Crisis, represent distinct subspecies of innovation-framing regulation. This paper critiques the effectiveness of innovation-framing regulation in the Basel II and ABCP case studies, both for the flawed assumptions underpinning them and because they failed to appreciate their own reflexive and change-accelerating properties. In the case of the Basel II Capital Accords, a series of beliefs about how innovation worked, grounded on the efficient market hypothesis and the presumed reliability, capacity and bona fides of private sector innovators as regulatory partners, created a regulatory regime that actually encouraged gamesmanship, excessive risk-taking and collective irresponsibility. Canada’s ABCP regulatory regime imagined a relatively static, bounded regulatory object that could be managed through market forces alone. It was virtually undone through unanticipated innovation, to which it was blind. The paper offers the third example, of rulemaking following the *Dodd-Frank Act* concerning the Volcker Rule, as a broader cautionary tale. The choice by legislators to allocate so much important decision-

making to the regulatory level, rather than the political one, was a political choice. It seems to have been heavily influenced by the three assumptions mentioned above, as well as by a desire to avoid making difficult normative choices in a political arena. The Volcker Rule example suggests that the notion of innovation-as-beneficial has seeped so fully into political dialogue that really, it is only the details that are left to be worked out. Yet, the decision to allocate so much decision-making to the regulatory level also virtually guaranteed that deliberation about the final form of the Volcker Rule would take place in highly technocratic terms, in which the public at large could not meaningfully participate. Thus, the contemporary fixation on innovation paralyzes even the consultative mechanisms designed to ensure the public-regarding nature of regulations.

Taken together, the case studies also demonstrate that from the perspective of the regulated entity (here, generally for-profit, private sector, transnational financial institutions) these environments have much in common. In each case, regulatory structures are influenced by background assumptions about the relationship between innovation and regulation that deserve closer examination. At a technical level, private sector innovation also opened up unexpected interstitial spaces, in the very midst of regulatory action (Bartley 2011), within which capable, well-resourced, well-connected private actors were able to shape outcomes in their own interests. We know this – consider the law and economics literature on gap-filling in incomplete contracts – but the point applies to regulation too (Krawiec 2003). Consequential spaces exist *within* definitions and assumptions, in the structural spaces *around* regulation and in the temporal spaces *before* and *after* regulation (including the technical space where structured financial instruments are built). While innovation may be inevitable, and sometimes may well be beneficial, devising sound regulatory responses to it requires a more nuanced understanding of context, and a reappraisal of who benefits from innovation and to what relative extent. Thinking about regulation in terms of its innovation-framing qualities sheds light on an under-analyzed attribute of modern regulation. It helps us to see the influence of our normative stance on innovation, and it helps us to see the practical, technical impact of innovation on our regulatory structures.

The Innovation: Derivatives & Securitization

Neither securitization nor derivatives (which are used to construct and to sell securitized products) are particularly new inventions. Both used decades-old tools, such as options, swaps, and special purpose entities, except more extensively or in new arenas in response to new opportunities.ⁱⁱⁱ It has been their multiplication and diffusion that has raised challenges in recent years.

The financial crisis is too multifaceted to describe here, but it is possible to talk about financial innovation based on a general understanding of a particular innovation, which also contributed directly to the subprime mortgage crisis and credit crunch in the United States and ultimately to the global financial crisis. That innovation was the securitization of bundled consumer debt and the sale of the income flow from these securitized assets (boosted and tweaked by the addition of other financial instruments, side deals and guarantees) in tranches on the over-the-counter (OTC) derivatives markets. Securitization made maturity transformation possible – that is, transforming fixed-rate, long term assets such as residential mortgages into immediately realizable and marketable assets. This unleashed the present value of these assets and, through aggregation and actuarial risk analysis, helped quantify, disperse, and manage certain kinds of risk.

In order to sell these securitized instruments (which involved obtaining a credit rating from an approved credit rating agency, and taking other steps to make the products attractive to the

market), financial institutions had to evaluate the risks associated with them. By the turn of the millennium, this risk assessment had necessarily become the responsibility of highly sophisticated and complex modeling and analytical software. Financial institutions used proprietary risk modelling software to allocate, shift, and spread the risks associated with the products they were marketing. Reciprocally, the widespread use of computer-based risk modeling allowed financial institutions to develop and market to consumers increasingly complex financial products. It was a competitive business, and a lucrative one, in which for a time financial institutions profited virtually whenever they brought new structured products to market. Profitability was front-loaded, meaning that there was a large first mover advantage for those bringing a new product to market for the first time. A financial product's profitability fell off dramatically once it had been imitated. The pace of financial innovation soared as a result, as did the largely unregulated OTC derivatives market on which these products and their component parts traded.

As it turned out, the software that many financial institutions used to assess such things as the default risk on subprime mortgages was often badly flawed (Gerding 2009, 168-179). Moreover, the increasing reliance on code to manage risk, or as Erik Gerding has described it the "outsourcing" of risk analysis to "the new financial code", also submerged and obscured contestable assumptions about the nature of the products being sold, removing those assumptions from the ambit of human judgment (Gerding 2009, 153-159; Bamberger 2009). In hindsight, it is clear that in the run-up to the financial crisis, as a function of the automation of many risk and compliance processes, human beings actually had considerably less conscious, concrete knowledge about how they measured their own risk and compliance than was generally realized. To make matters worse, financial institutions and mortgage lenders had little incentive to be prudent in their investments, either in entering into underlying loan agreements (because under the originate-to-distribute model, they no longer held those underlying assets) or in devising new derivative products for sale (because there was a high international demand for any investment that could offer good returns, as these products did) (Bernanke 2005).

We should remember that financial innovation, including securitization, can produce important social benefits. The fact that lenders such as banks and community credit unions can securitize long term assets and trade in the derivatives markets means that it is far easier than it used to be for small business owners to obtain loans, for individuals to obtain credit, and for the "real" Main Street economy to grow (Davidson 2012) – even while it also enriches the "virtual" Wall Street world of finance. Derivatives make it possible to slice risk more finely, leading to the more efficient use of capital (Gilson and Whitehead 2008). They can be used to hedge and offset virtually any risk including those associated with changing costs of supplies, commodity prices, foreign exchange rates, contractual counterparty default and even crop failure. As such they have become essential tools not only for sophisticated international financial institutions, but also for many small businesses engaged in contractual relationships, commodity sellers (including farmers and resource companies), and entities doing work cross-border.

At the same time, derivatives and securitization have undermined the means by which finance has traditionally been made accountable – to regulation, to the public and the political process, to economic forces, and in corporate law. They have dramatically increased systemic risk and engendered a level of technical complexity that pushes the limits of our regulatory capacity, at least based on current tools. They have tied the same small business owners that use these tools to hedge their business risks to powerful, poorly understood global systemic forces far beyond their control. Ultimately, financial innovation has allowed businesses and financial institutions to hedge risk and increase their own short-term certainty – right up to the point at which it turns out that the

risk was never eliminated, but only shifted, and that in times of systemic crisis it ends up being shifted all the way to taxpayers and nations.

Financial innovation and its attendant complexity are challenging background conditions for any regulatory regime. The narratives below consider three moments at which regulation, in different forms, intersected with that innovation.

What is Innovation-Framing Regulation?

Across subject matter areas, one of the signal shifts in regulatory theory over the past two decades has been a move to a new, more variable and interactive kind of state regulatory apparatus. Regulatory scholarship has moved beyond the floors and ceilings of traditional mechanisms to deploy a fuller and more variedly-stocked “regulatory toolkit” (Morgan and Yeung 2007). What we might call “flexible regulation” today covers a range of distinct approaches including responsive regulation and its central strategy, enforced self-regulation (Ayres and Braithwaite 1992), management-based regulation (Coglianese and Lazer 2003), new governance and experimentalism (de Búrca and Scott 2004; Sabel and Simon 2004), and meta-regulation (Parker 2002).

While there are differences between them, the several versions of flexible regulation have in common that they seek to tailor regulatory tools to the specific needs of the situation at hand – to move away from “one size fits all” prescriptions to a more context-sensitive and dynamic approach. Flexible regulation aims to be outcome-oriented, pragmatic, and data-driven, using empirical performance measures to assess its own performance as well as regulated actors’, and transcending conceptual boundaries (national, federal, public/private) where evidence suggests those boundaries are overdrawn or counterproductive. It aims to be better at recognizing and leveraging compliance-enhancing non-legal forces – including normative architectures and community pressures (Cover 1983; Bernstein 1993; Gunningham, Kagan and Thornton 2003), individual morality (Tyler 2006) and market forces (Kahn 1971) – both by themselves and as leveraged by legal mechanisms (Lessig 1998; Héritier and Lemkuhl 2011). Perhaps above all, flexible regulation seeks to be iterative, meaning to be able to register change in its environment, develop contingent strategies and provisional responses, and adjust its behavior based on its own learning. As Orly Lobel has said, “the idea of dynamic [regulatory] innovation is intrinsic to the theory” (Lobel 2004 at 354).^{iv}

In some areas, flexible regulation emerged partly in response to the actual success of traditional regulation. Having made advances in areas such as civil rights, employment and housing discrimination and egregious corporate misconduct using bright-line, top-down public rules, equality-seeking groups and progressive scholars ran into the limits of law to accomplish more (Stone 1975). Some sought ways to go beyond law and beyond the crabbed, compliance-oriented mindset that accompanied it, and to use more sophisticated regulatory design to try to address subtler, deeply engrained problems.

In other arenas, it was private sector innovation that directly and explicitly drove regulatory innovation. All versions of flexible regulation try to respond to exogenous change and to establish regulatory scaffolding that can handle continual and unpredictable change. What distinguishes what I would call “innovation-framing regulation” is that – sometimes intentionally and self-consciously and sometimes not – it locates private sector innovation at the core of its regulatory model. Particularly around the regulation of structured finance, using derivatives and securitization, the forms that innovation-framing regulation have taken are heavily informed by the technical complexity of the subject matter, the rapid pace of industry-driven change, and the perceived relative

capacity of regulator to regulated entity. A key assumption underlying innovation-framing regulation, then, has been that the state was incapable of grasping or keeping up with, let alone managing or directing, financial innovation. The dynamicism and creativity of the financial sector, especially around new and complex financial technologies, seemed undeniable.

If one starts from the view that centralized public regulators are not capable of “keeping up” with private sector innovation, one response might be that regulators should devise strategies that allow them to be effective without actually having to keep up with all industry developments. Prescriptions for regulatory strategies that could “steer not row” (Osborne and Gaebler 1992), and that establish principles and goals at a high level of generality while leaving the fast-moving details to be filled in by private actors (Coglianese and Lazer 2003; Ford 2008), were intended as realistic responses to that challenge. In practice, these approaches were also influenced by transnational regulatory competition over highly mobile capital, which pushed regulators to try to reduce the “regulatory burden” at the same time.

The crucial assumption here was that private sector innovation was at a minimum inevitable (and inevitably fast-moving and ever-growing) and, following the efficient market hypothesis, probably even beneficial. Even among non-market fundamentalists, the somewhat unexamined assumption in the years leading up to the financial crisis was that innovation was beneficial virtually by definition, since market forces would winnow out any unsound ideas (UK Financial Services Authority 2009). Correlatively, market actors were understood to be rational, competent and rationally self-interested enough that self-regulation could do a considerable amount of prudential and precautionary regulatory work. Particularly where regulated actors had sophisticated risk management systems in place, they seemed capable of managing their own risks effectively.

Another key assumption underlying innovation-framing regulation was that it was possible to erect regulatory scaffolding of carefully-designed incentives and principles that, in combination with market discipline, would be adequate to channel private sector action to align with public priorities. While thinking about financial regulation in the 2002-2008 era was surely affected by corporatism (Skeel 2011), most regulators and scholars did not set out to deregulate the financial sector. Even if in retrospect it may seem to have been unrealistic, the ambition was to improve regulatory performance along all axes at once. The shape of innovation-framing regulation – principles-based, delegating details to regulated entities, relying on social and market forces to buttress regulatory requirements – rested on a vision of what Julia Black (2008, 9) has termed the “regulatory Utopia,” within which the self-examining, responsible firm, which possesses the greatest contextual information, helps to elaborate the detailed content of regulation through ongoing dialogue with a flexible and outcome-oriented regulator, in the service of the mutual goal of optimized regulation. For example, in describing the UK Financial Services Authority’s move to a more principles-based regulatory approach, Financial Services Authority Chief Executive John Tiner argued in 2006 that principles-based regulation produced simply “better” regulation, meaning simultaneously “(1) a stronger probability that statutory outcomes are secured; (2) lower cost; and (3) more stimulus to competition and innovation” (Tiner 2006; Briault 2007).

I want to be clear that the financial crisis is not a story about the failure of innovation-framing regulation as a theoretical approach, let alone about flexible regulation as a broader category. Financial regulation in the run-up to the crisis was not responsive regulation, new governance regulation, meta-regulation, or any other version of flexible regulation. Even ignoring the extraordinarily poor conduct of industry actors, the main regulatory failures implicated in the crisis were functions of gaps in regulation, inadequate resources, the widespread underestimation of industry interconnectedness and systemic risk, and an ill-informed and insufficiently skeptical

regulatory mindset. What I hope emerges instead is an appreciation of the enormous challenge that fast-moving private sector innovation presents to regulatory structures of all stripes.

Additionally, what may have been unappreciated before the financial crisis is that the regulatory choice in favor of innovation-framing regulation around innovative financial products actually helped constitute and enlarge the very market for those products, the complexity of the global financial system, and the attendant risks and uncertainties. The reflexive relationship between these products and their regulation created something approaching a feedback loop between financial innovation, regulatorily-sanctioned (or ignored) rewards flowing to certain private actors, and more financial innovation. In other words, the porous, substantially self-regulatory structure built to handle vast private sector financial innovation actually – to some extent unintentionally, or at least uncritically – heightened the complexity it was meant to be responding to, and further accelerated the pace of change.

Three Regulatory Moments

Basel II as Innovation-Framing Regulation

Since the OTC derivatives market was largely unregulated (itself an important normative choice, but beyond this paper's scope), one of the first regulatory engagements with financial innovation occurred at the point at which financial institutions' capital adequacy was assessed, through the Basel II capital adequacy standards of 2004 and the somewhat equivalent Consolidated Supervised Entities (CSE) Program in the United States. Securitized and derivative assets were an enormous part of what global financial institutions were holding by then, meaning that an important regulatory interaction with these products was in the context of whether they were being properly accounted for, for prudential regulatory purposes.

The Basel II Capital Accord was developed to address capital adequacy maintained by global financial institutions. The purpose of capital adequacy standards is “prudential regulation” – that is, to ensure that financial institutions keep enough capital reserves on hand to cover their liabilities and the risks they run in the course of their business. Prudential standards aim to protect depositors, and also to ensure financial system stability as a whole. Basel II, enacted in 2004, sought to develop a more risk-sensitive metric for capital allocation. Relative to the Basel I structure that preceded it, the reforms were intended to reduce the scope for regulatory arbitrage and to ensure that risks were better quantified (Ojo 2011; Lobanov 2012).

The Basel II standards are an example of the principles-based, outcome-oriented, innovation-framing turn that financial regulation took in the years between the Enron debacle in 2002, and the credit crunch in fall 2008.^v Rather than developing its own bright-line regulatory standards (“floors”) for capital adequacy, the Basel Committee recognized the continued fast pace of financial sector innovation around marketable products, and the significant role that innovation had played in undermining the comparatively bright line standards in Basel I. The forms of financial assets that had been created through financial engineering, even before 2004, were of such a varied and mutable nature that risk assessment had become a complex undertaking. In an attempt to permit private sector innovation while not forcing regulators to try, in vain, to keep up with the details of that innovation, Basel II developed a “three pillars” design for capital adequacy. Pillar I established minimum capital requirements for financial institutions, providing substantial discretion to what were thought to be the most high-functioning financial institutions. Pillar II established a

supervisory review program, for which national regulators were responsible. To supplement regulation and offset the greater discretion that certain financial institutions had under Pillar I, Pillar III required financial institutions to make extensive disclosure of their capital reserves. The idea was that greater disclosure would enhance transparency and make those institutions more answerable to disciplinary market forces.

Especially relevant here is that under Pillar I, the largest global financial institutions were able to use their own internal risk assessments to evaluate the risks they were running. While a “standardized approach” and a “foundation approach” were available to less sophisticated institutions, Basel II incorporated an “advanced approach” that gave a financial institution more freedom to use its own systems to set risk weights. So long as the financial institution met the minimum organizational and risk-modeling standards set by the Basel Committee and maintained what was thought to be a strong control environment, it could use its own risk models to determine how much capital it needed to keep in reserve. The assumptions underlying the Pillar I approach were first, that the innovation being undertaken was socially beneficial overall or at least, that its expansion would impose only private, market-controlled costs and not systemic public ones; second, that financial institutions were in a better position to assess the risks they were running than regulators were; and third, that sophisticated institutions with strong control environments could be counted on to behave responsibly, in their own self-interest, in regard to risk and leverage.

In the end, in response to strong competitive pressures and (correlated) flawed risk modeling, financial institutions’ own internal risk analytics under Basel II’s “advanced approach” generated much lower risk assessments than the “standardized” or “foundation” approaches did. Since lower capital reserves and greater leverage generate larger profits, the financial institutions that could use the “advanced approach” generally did so. Of course, greater leverage also entails greater risks. The shift to more risk-taking was exacerbated by uneven supervisory review under Pillar II. As the Northern Rock debacle in the United Kingdom demonstrated, not all bank supervisors supervised effectively (Financial Services Authority 2008). In addition, while the disclosure requirements under Pillar III were expected to allow market participants to gauge for themselves the capital adequacy of an institution, the complexity and opacity of the assets in question made real market discipline ineffective. In fact, equity investors actually *avored* more risk-taking financial institutions, because those financial institutions posted higher returns (Levinson 2010, 83).

An OECD December 2010 study found that financial institution regulation based on Basel II Accords encouraged risk-taking and unconventional business practices, and contributed to the systemic shocks underlying the recent financial crisis. The study found that capital regulation based on risk-weighted assets encouraged innovation that was designed to circumvent regulatory requirements, and to shift riskier assets off the balance sheet to subsidiaries or third parties (Blundell-Wignall and Atkinson 2010). The problem was even worse in the United States. Basel II was not adopted by the various US federal banking agencies. However, the US Securities and Exchange Commission essentially adopted Basel II’s Pillar I advanced approach for broker dealers under its jurisdiction (SEC 2004). The CSE Program was entirely voluntary, because the SEC had no jurisdiction over the parent corporations of those broker-dealer entities (SEC 2008). Precisely how much the voluntary nature of the CSE Program contributed to its failure is not clear. What is clear is that allowing the parent entities of US broker-dealers to use internal proprietary risk modeling software to assess the risks they were running contributed to a catastrophic behavioral cascade toward excessive risk-taking and overleverage.

Under both Basel II and the CSE Program, beliefs about how innovation would work – relying as they did on the efficient market hypothesis, confidence in banks’ ability to behave in

rationality self-interested ways that did not implicate systemic risk, and the shared interests of regulators and regulated entities in a well-functioning system in the “regulatory Utopia” – proved flawed.

ABCP in Canada: Underestimating the Impact of Innovation

A second moment, less consequential in global terms but illuminating in regulatory ones, is the September 2007 Asset-Backed Commercial Paper (ABCP) Crisis in Canada. The crisis is historically interesting because it foreshadowed the larger credit crunch that followed in 2008, but also because the way in which ABCP was distributed in Canada demonstrates the corrosive behind-the-scenes effect that financial engineering can have on discrete regulatory provisions. The commercial paper regime in Canada was innovation-framing, though not self-consciously and explicitly in the way that the Basel II Capital Accords were. It established a blanket exemption for commercial paper from certain securities law requirements, on the basis that any kind of commercial paper that could possibly be devised would still have to operate within well-understood practical limits. The ABCP regime was premised on the view that commercial paper was inherently safe, for reasons that were related to its short term nature and the limits of its marketability. Yet, through innovation, the market for commercial paper was fundamentally transformed in ways that undermined that view completely.

“Commercial paper” by itself is a promissory note used to secure short-term loans (that is, loans due in less than 270 days). The loan is not secured by underlying collateral. Investors are willing to buy it on the strength of the issuer’s reputation, buttressed by a good credit rating from a recognized credit rating agency. For this reason commercial paper has typically been issued only by banks or large financial institutions, where default is very unlikely. “Asset Backed Commercial Paper” (ABCP) is a similar promissory note but one that is also secured by collateral. In the event that an ABCP issuer cannot honor the ABCP when it comes due, the investor may lay claim to the underlying assets. In the years leading up to the crisis in 2007, ABCP was issued by banks and other large financial institutions, as well as some non-bank parties.

Under Canadian securities laws, ABCP could be distributed under an exemption from the disclosure and regulatory requirements that otherwise would have applied to securities distributions to the public (CSA, NI 45-106).^{vi} The rationale for the exemption was that ABCP was a very safe investment with a very low risk of default. That view in turn was based on a series of assumptions that would have been entirely reasonable in an earlier era: first, the only issuers that would be able to market commercial paper successfully would be very sound and reputable institutions, because no one would buy unsecured IOUs from anyone else. (The fact that ABCP was secured by assets presumably made it even safer.) Second, the risks associated with commercial paper were lower because the paper would mature and the investor would be paid back in 270 days or less. The likelihood that a reputable institution would suffer a default event within such a short time window was very small. Third, as a condition of the exemption, the commercial paper had received an acceptable rating from an approved, arm’s length credit rating agency. Finally, like the rest of the exempt market, product sold under the commercial paper exemption would only be marketed to sophisticated institutional investors. Individual “retail” investors, who needed the protection that a prospectus (the mandatory disclosure document associated with distributions of securities) would have offered because they could not do their own research, would not even be buying ABCP.

In fact, each of these assumptions was flawed and reflected expectations about the financial markets that were no longer accurate (Chant 2009). *First*, the fact that ABCP was marketable did not

mean that it was safe. There was no relationship between the soundness of the financial institution offering the ABCP and the assets underlying the ABCP, which could often be of very poor quality. In particular, ABCP assets included high risk credit-default swaps (CDSs), including those on securitized American subprime mortgages. Moreover, financial institutions used ABCP to avoid capital adequacy requirements designed to ensure the institutions' solvency: they moved long term credit obligations, such as mortgages, off their own balance sheets and into the ABCP conduit. Nevertheless ABCP was highly marketable, especially internationally, because it offered higher returns during an era of low interest rates (National Post 2007). *Second*, the short 270 day window for the commercial paper was irrelevant. ABCP functioned more like a highly-leveraged liquidity fund than like old-fashioned commercial paper. ABCP issuers had to obtain a continuing stream of investors into ABCP in order to pay off the holders of maturing ABCP, in a never-ending cycle of "rollovers". The ABCP issuer's solvency completely depended on there always being a larger market for ABCP. *Third*, the credit rating agencies were not the zealous independent assessors they were thought to be, at least in the United States.^{viii} *Fourth*, purchasers of ABCP were not always sophisticated investors, because purchasers did not always purchase on their own behalves. Thousands of retail investors also found themselves invested in ABCP. (Individuals' pensions and savings were also affected when their pension and investment funds participated, although those funds were professionally managed.)

The market for ABCP in Canada froze completely in September 2007, after it had become clear that some ABCP (no one entirely knew how much) was exposed to the increasingly-toxic US subprime mortgage market. Once worried investors stopped buying ABCP, ABCP issuers could not pay note holders whose maturing ABCP notes were coming due. Retail investors disproportionately held frozen ABCP at that stage, since savvier institutional investors had been rushing to dispose of their ABCP holdings in the weeks leading up to the market freeze (Greenwood 2011). At that stage, as with the use of the commercial paper exemption in the first place, the gap between the opportunities perceived and seized by sophisticated actors, and the expectations of the regulators and retail investors around them, was clear.

The ABCP story suggests that a regulatory regime that rests heavily on market discipline to police the boundaries of a regulatory exemption, and underestimates private innovation's capacity to push those boundaries, will fail.

The Volcker Rule Rulemaking Process: Innovation, Expertise and the Limits of Consultation

Finally, in the present moment in the United States, we are seeing negotiations around the rules following the 2010 *Dodd-Frank Act*. On its surface this is a different kind of regulatory moment, since it concerns administrative rulemaking procedures that are both formal and longstanding. Notice-and-comment rulemaking is not innovation-framing at the level of regulatory design, though it is change-oriented in the sense that it provides a mechanism for incorporating public input into anticipated regulatory changes. But rulemaking under *Dodd-Frank* implicates the same difficult questions about through what mechanisms to regulate financial innovation. The example also suggests that private sector financial innovation influences the rulemaking process at two distinct levels: at the normative/political level, in restricting the options available to politicians and contributing to a decision to "punt" the problem to regulators; and at the regulatory level, where the highly technical nature of the discussion both limits the range of possible outcomes, and the possibility of meaningful public input. Overall, rulemaking under *Dodd-Frank* has been innovation-

framing in the choices it has *not* made. It has entailed no fundamental challenge to the belief that fast-moving private sector financial innovation carries with it benefits that cannot be compromised. (Although this paper focuses on the impact of innovation-framing choices, financial institutions' power and influence are also important contributing factors: Ford 2011.)

The *Dodd-Frank Act* takes a number of important steps in responding to the financial crisis, including creating a new regulatory framework for OTC derivative products (Dodd-Frank, Title VII). What bears particular mention here are the ongoing struggles around the what has come to be known as the Volcker Rule. The purpose of the Volcker Rule, as originally envisioned by former Federal Reserve Chairman Paul Volcker, was effectively to insulate financial institutions' consumer banking business, taking deposits from depositors, from the institutions' own for-profit risk-taking. The *Dodd-Frank Act* is structured (and it has been criticized for this) to leave a great deal of important definitional work to regulatory agencies to develop. Whether or not the Volcker Rule will effectively insulate the bank depository function from speculative risks will depend a great deal on its details. The decision by law-makers to "punt" the crucial questions to the regulatory level is a significant one.

Rulemaking around the Volcker Rule initially fell to the new Financial Stability Oversight Council (FSOC), which used, as it was required to do, a notice-and-comment rulemaking procedure as part of developing the detailed content of the rule. So far, the Volcker Rule has attracted more public comment than any administrative rule in history (Krawiec 2011, 22-23). The issue of bank risk-taking, which normally has low public salience, attracted a good deal of attention in the wake of the financial crisis.

The difficulty is that lay citizens, while engaged and often angry, do not generally have the necessary technical financial expertise to make headway on these matters. As Kim Krawiec has demonstrated (Krawiec 2011), the notice-and-comment procedure around the Volcker Rule generated huge numbers of letters from citizens, the overwhelming majority of which were not detailed enough or specific enough to actually affect the final form of the rule. The vast majority of letters from members of the public (and 91% of all 8000 letters received) were form letters generated by a public interest group. Most of the rest of the letters from private individuals were very short – the average word count is 86 words – and not substantive.

By contrast, financial industry comment letters were far longer and, in Krawiec's assessment, "contain[ed] cogent arguments on behalf of a generally narrow interpretation of the Volcker Rule's scope of prohibited activity, advance[d] detailed legal arguments relying on numerous statutes and cases, reference[d] the Dodd-Frank legislative history, and often contain[ed] detailed empirical data" (Krawiec 2011, 25-26). Moreover, public attention to the issue slid steadily downward as the topic of the Volcker Rule moved from the high-profile legislature, to the regulators' initial call for public comments, to low-profile, in-depth meetings with regulators. By contrast, regulators' meeting logs showed that financial sector actors maintained the pressure throughout all deliberative stages. Financial institutions, their lawyers, financial industry trade associations, lobbyists, and policy advisors met with federal agencies to discuss the Volcker Rule fifteen times as often as all other public interest groups and research or advocacy organizations outside the financial sector. Heads of financial institutions also had more one-on-one access to the heads of agencies.

What emerges from this account of rulemaking around the Volcker Rule is that private sector innovation operates as both a normative and technical force to affect regulatory outcomes. The decision to frame the Volcker Rule in technical terms is a choice, and one that amplifies existing inequalities in participation and voice between financial industry players and others. The experience

of notice-and-comment rulemaking around the Volcker Rule speaks to the age-old problem of the limits of public deliberation in rule-making, but it is a problem that is exacerbated by the same technical expertise that underlies financial innovation in the first place.

Innovation and Regulation: Three Misperceptions

Private sector innovation presents a significant challenge to regulators. Regulatory regimes that are designed to embrace it and step out of the way, as Basel II did, must assume too much about the bona fides and capacity of industry actors and the beneficial impact of market and social forces. Regulatory regimes like the ABCP regime in Canada, which establish high-level principles and that imagine, without building in verifying mechanisms, that they can trace in advance the limits of those principles' use by highly innovative and self-interested private actors, will be gamed. As the *Dodd-Frank Act* rulemaking account demonstrates, there is no serious appetite for trying to put the genie of financial innovation back in its bottle. The normative challenge surrounding it – whether private sector financial innovation is beneficial or not, and if so to whom – has not been faced squarely. At the regulatory level, the technical nature of the conversation effectively shut out the popular forces that might have argued for more extensive limits on financial institutions' abilities to expose consumer banking funds to proprietary trading risks.

While each case study is different, in each one the regulatory regime exhibits a lack of understanding about the phenomenon of innovation it is grappling with. It is crucial to develop a better understanding of how innovation intersects with regulatory strategies. This is a substantial project, which must consider not only some of the forms innovation can take but also who innovates, for what reasons, and with what effects. As a starting point, the three sections below highlight some of the assumptions or sets of assumptions that innovation-framing regulation makes about innovation.

The Assumption that Innovation is Beneficial, Almost by Definition

Our definition of the “success” of regulation will depend on our definition of the problem to be addressed through regulation. Whether we imagine that financial regulation is primarily about the efficient allocation of capital, about protecting investors, about safeguarding the integrity of the capital markets, or about some other version of fairness will have consequences for our definition of success.

As noted above, in financial regulation before the crisis, the regulatory agenda was substantially framed around the sense that modern financial markets were too fast-moving and complex to be regulated in a top-down, traditional way; and that financial innovation brought with it great social benefit and as such ought to be fostered and preserved. These were the motivations behind explicit innovation-framing regulation of the Basel II variety. While each assumption may be partly or even substantially true, each also internalizes an industry-favoring perspective on innovation at the expense of a more thoroughgoing inquiry into exactly who benefits from rapid financial innovation, and how.

Taking the first point, global financial markets are indeed fast-moving and complex. The difficulty is that by framing the agenda around the inevitability of speed and complexity in global financial markets, innovation-framing regulators lost the ability to articulate a regulatory agenda independent from some panicked attempt to “keep up” with industry developments. This mindset

also affected the operative definitions of expertise. Bankers' quantitative analytical skills were seen to be more (or even uniquely) valuable. They drove change, while more policy-oriented or process-oriented analytical skills were held in comparatively low regard. This left social questions about the nature and implications of the speed and complexity of global financial markets – the reasons for it, the concerns it might raise, and the broader regulatory reorientation it might demand – insulated from interrogation.

Similarly, because the innovation-framing agenda was set around regulators' obligation not to stifle innovation, there was no opportunity to examine the phenomenon of financial sector innovation as a qualitative good. The prevailing view in the years leading up to the financial crisis was that all innovation was beneficial virtually by definition, since market forces would winnow out any unsound ideas. Thus, "regulators [did] not consider it their role to judge the value of different financial products, and in general avoided direct product regulation" (UK Financial Services Authority 2009, 49). Rather, a key aim was simply to get out of the way. This made it effectively impossible for regulators to act on concerns – indeed, to *have* concerns – about the OTC derivatives market's extraordinary and unregulated growth. It also prohibited a proper examination of varieties of innovation, incentives for innovation, and effects of innovation. And, it was mistaken. Financial innovation was undertaken at least as much for rent-seeking and regulation-avoiding as it was for any socially beneficial purpose (UK Financial Services Authority 2009, 47-49).

Yet flawed assumptions about private sector innovation are a more pervasive phenomenon. In the first two case studies above, regulatory design was based on expectations about the other forces that would provide "backstops" to keep what was essentially self-regulation robust, while permitting change and innovation. In the case of Basel II, market discipline and rational self-interested action on the part of industry were expected to keep leverage and risk-taking within reasonable bounds. In the case of ABCP in Canada, the marketability of commercial paper was expected to set a built-in limit on its riskiness, and the regulatory design substantially underestimated the potential impact of innovation to erode that backstop. With respect to the *Dodd-Frank Act*, the political arena proved not to be a space where the benefits of innovation – meaning not only the more efficient allocation of capital or national competitiveness but also its contribution to broader social welfare – could be meaningfully debated. Popular politics were not a counterweight to economic power and backroom influence. At the regulatory level, to the extent that notice-and-comment rulemaking is premised on the idea that meaningful public input is important to both the quality of regulatory rules, and their legitimacy – in other words, that public consultation through notice-and-comment rulemaking thus far has not provided a "backstop" to limit backroom influence.

The Assumption that the Regulatory Moment is the Important One

Intentionally innovation-framing strategies like Basel II are based on an appreciation for how hard it is to regulate a chimeric object like financial innovation through a time-bound, formal tool like regulation. To be clear, we should not expect to have more success by papering over factual uncertainty with artificially clear legal constructs, so long as the regulatory object continues to shape-shift. Yet we should not imagine that this is all that can be done. A flawed assumption behind the Basel II design but even more so the ABCP and *Dodd-Frank* rulemaking design is that the regulatory moment is the crucial one.

In fact, the spaces *before and behind* formal regulation were at least as important to the regulatory outcomes described above. In the Canadian ABCP Crisis, asset-backed instruments

created by bankers were pushed through a disclosure exemption in securities regulation – a space that was never intended to make risky products available to retail investors. The technical work that underpinned ABCP was both consequential and antecedent to the regulatory moment, but the regulatory structure was effectively oblivious to it. It contained no capacity to register the changed nature of commercial paper, let alone to evaluate it in any meaningful fashion. In this regard, the explicit innovation-framing Basel II structure fares better. At least it registers the fact of innovation and innovation's effect on its predecessor accord, Basel I. It tries to put in place regulatory scaffolding based on “strong internal control systems”, regulatory supervision, and enhanced disclosure. Its difficulty is that it incorporates by reference proprietary industry risk modeling as some form of best practice, based on assumptions about how it will function, without having put in place the reflexive regulatory infrastructure needed to critically evaluate it.

Just as consequential is the space *after* formal law-making, and after public attention has died down (Baumgartner and Jones 2009). As the Volcker Rule account demonstrates, it matters very much which parties are still in the room at the point at which important details get determined. Years ago, Louis Kaplow observed that rules-based regulation imposes costs *ex ante*, on regulators, while principles-based regulation imposes costs *ex post*, on a more extensive set of actors (Kaplow 1992). But principles also present opportunities *ex post* for well-resourced actors to help shape the detailed content of regulation. Lay people do not generally have the expertise to speak to the kinds of significant technocratic details that underlie things like the implementation of the Volcker Rule. Therefore, once the choice is made to treat the question of how to regulate financial innovation as a technocratic one rather than a policy one, it is possible to develop public agreements about mechanisms like the Volcker Rule that allay what Fiona Haines calls “sociocultural” risk (Haines 2011), without actually having much real impact on influential players' interests. The Volcker Rule persists as a symbolic device but, in practical terms, it can be hollowed out after the fact.^{viii}

Moving the detailed decision making process to a later temporal stage can be a wise choice, if one can design a process beyond the political moment that permits a more thorough, meaningful analysis of the issues at hand. But agreement on principles (as opposed to rules) can also just defer hard choices, causing normative or power battles to go underground. This may well be part of the Volcker Rule story. Establishing formal consultation processes such as notice-and-comment rulemaking around politically charged and consequential issues like the Volcker Rule has its merits. However, where skeletal statutory language is used effectively to “punt” fundamentally political questions into insular arenas focused on technocratic details beyond most peoples' expertise, public consultation will be cosmetic at best. Worse yet, if an agreement on principles is actually masking not only a public, but a *regulatory* incapacity to understand or work with the details of regulatory implementation – as was the case in the United Kingdom around principles-based prudential regulation (Financial Services Authority Internal Audit Division 2008), or in the US around the CSE Program (SEC 2008) – then the regulator will simply have ceded the regulatory field to private actors. The difference between what Ayres and Braithwaite call “enforced self-regulation”, and outright deregulation, lies in that gap. It matters very much what back-end processes are in place, exactly, through which *ex post* indeterminacy will be resolved.

The Assumption that Regulation Sits Outside Innovation and is Not Directly Implicated by It

The gaps between a legal construct and reality are instructive when looking at the financial crisis and the definition of regulatory success. Some gaps are the product of politics. For example,

the mismatch between the scope of a problem and the jurisdiction of the regulators charged with doing something about it also produces structural gaps: witness the CSE Program's necessarily voluntary compliance regime, or the jurisdictional mismatch between global financial institutions and national financial regulators.

More central to present purposes, structural gaps can also be the product of attempts to manage change through regulatory tool choice. There is a reflexive relationship between regulation, and innovation. Looking at regulation from the perspective of the innovator's perspective helps us to identify the weak spots, tools, and competitive opportunities embedded in the regulatory structure. The gaps can be a product of the porous nature of innovation-framing regulation – for example, the gap around regulatory risk analysis which was left to be filled by financial institutions' proprietary risk modeling software. On the other hand, in places such as the securities law exemption for safe investments that opened the path for the ABCP Crisis in Canada, the gaps were the product of the opposite problem – of overly rigid legal or insufficiently context-sensitive forms being used, through unanticipated financial innovation, in ways never intended.^{ix} As difficult a task as it may be, developing viable regulatory responses to extensive and continuous private sector innovation requires careful attention to these interactions, and an appreciation for just how much regulatory structure interacts with and is affected by private sector innovation within its bounds.

Conclusion

The regulation of financial innovation has turned out to be highly porous, in both intentional and unintentional ways, to the interests of the financial industry actors involved. The third case study, of the Volcker Rule, reminds us that politics, including politically acceptable accounts of innovation, shape and limit the scope of regulatory conversations about how to handle innovation. It also reminds us that there is no such thing as value-neutral, objective, purely technocratic regulation. Regulatory choices inevitable require trade-offs between policy priorities, in ways that differentially affect different constituencies. Developing functional regulation in environments characterized by rapid and continual private sector innovation requires careful examination of contemporary assumptions about innovation, the regulatory moment, and the relationship between innovation and regulation.

Part of the way forward must be to stop pretending that by harnessing private sector innovation, we can create simply “better regulation” (Tiner 2006) that can make everyone happy at once. The large policy choices at stake, and the attendant deep disagreements and conflicting interests, will not be resolved through some magical step change in technical regulatory (or financial) expertise. Moreover, financial expertise, while celebrated in programs like Basel II, is not the only kind of expertise required to chart a path forward for financial regulation. The regulation of financial sector innovation in recent years in no way counts as successful, if what we care about is transparency, accountability, or the bending of the arc of private innovation toward greater social benefit than the market can produce on its own. Effective financial regulation still demands that a public-minded, future-oriented policy perspective be represented. Whether or not we understand the technical intricacies of a particular financial innovation, we should be prepared to engage in a debate about the policy implications associated with finance. As part of this, we may need to consider whether the democratic mechanisms we have in place now are even notionally sufficient to give citizens a stake in the issues that so directly affect their material and social wellbeing, the mechanics of which are buried in highly technical and ultimately inaccessible regulatory conversations (or else in transnational spaces marked by real democratic deficits).^x

Then – and this is something new in the context of technique-driven, efficiency-based modern regulatory approaches – we want to continue to use those public values as measures against which to assess the details that get filled in behind, between, and around regulation, as well as to assess the decision-making mechanisms we rely on for filling in those details. Normative questions are sometimes pushed out of technical conversations about regulation, on the grounds that evidence-based policy should not be ideologically driven. What this fails to appreciate is that in the absence of conscious normative choices and conscious attention to the back-end implementation stage of regulation, our collective trajectory will be determined by an opportunity structure in which influential and sophisticated institutional actors very often will get their way.

At a technical level, effective regulation of private sector innovation also requires a much clearer and more nuanced understanding of innovation than it currently has. The regulation of financial innovation, particularly securitization and derivatives, has not actually engaged directly with the question of what innovation *is*. This failure, coupled with an almost romantic view of innovation as a monolithic and unmitigated good, means that innovation-framing regulation has sometimes forged ahead based on a partial and even mistaken understanding of the phenomenon at the core of its project. Thinking clearly about our choices requires a better sense of how and for whose purposes innovation develops; and of who, exactly, these private innovators are that we should accord them so much autonomy in their creative endeavors.

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ⁱⁱ This is not to say that scholars working in the area were not interested in moving beyond the limits of law, for example to address problems in corporate ethical conduct in ways that traditional regulation had proved incapable of doing. Among others see, e.g., Parker 2002.

ⁱⁱⁱ On the origins of securitization, see Quinn 2010; Hearing on Protecting Homeowners: Preventing Abusive Lending While Preserving Access to Credit 2003. On derivatives, see, e.g., Stout 1999, 704-05, 712-34. For a straightforward explanation of what securitization and derivatives are, see Schwarcz 2002.

^{iv} The precise boundaries of what Lobel calls the “Renew Deal” are not the same as the boundaries of what I describe as flexible regulation, but this observation applies to both.

^v The Enron debacle was an example of a company gaming detailed, bright line accounting rules and engaging in loophole behavior by creating special purpose vehicles and securitizing its assets. Enron’s collapse prompted a wave of attention to rules-based versus principles-based accounting rules, and the role of rules-based US GAAP in making Enron’s fraud possible. See, e.g., Ford 2008, 11-13; Bratton and Levitin 2013.

^{vi} Proposed amendments to this provision aimed to limit this exemption but to date have not been enacted. See British Columbia Securities Commission 2011.

^{vii} In the United States, the credit rating agencies were ineffective right up to the onset of the financial crisis, and their independence seems to have been compromised (Lowenstein 2008; Partnoy 1999). The story in Canada is different from the American one. In Canada, the Dominion Bond Rating Service (DBRS) imposed more stringent liquidity arrangements on some ABCP products in January 2007 and thereby accelerated the moment of reckoning.

^{viii} Before going to press: update on status of rule

^{ix} Beyond this paper's scope, the corporate share itself also has been disassembled through the use of options and swaps, in ways that separate share ownership from economic stake. The result has been the new phenomenon of "empty voting" and "vote buying" that has fundamentally undermined corporate accountability and the market for corporate control (Hu and Black 2006)

^x This is not to suggest that democratic participation in policy decisions is a panacea. Highly complex issues can be susceptible to demagoguery and oversimplification. As Matthew Desmond pointed out at the workshop that fostered this issue, public protest has succeeded in shutting down (non-equivalent) scientific inquiry ranging from cloning through stem cell research. The Volcker Rule story above also highlights the age-old tension between expertise and democracy. The point here is only that it is necessary to re-inject a public voice into a context, innovation-framing financial regulation, in which it was utterly absent prior to the financial crisis.